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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

45823

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Application Number

10/781,865

Filed

February 20, 2006

First Named Inventor

Hong-jin AHN

Art Unit

2444

Examiner

Muktesh G. Gupta

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)☒ attorney or agent of record.
Registration number 61,789☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____
Signature

Jundong Ma

Typed or printed name

(202) 530-7394

Telephone number

October 16, 2008

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: :
 :
 Hong-jin AHN : Group Art Unit: 2444
 :
 Serial No.: 10/781,865 : Examiner: Muktesh G. Gupta
 :
 Filed: February 20, 2004 : Confirmation No.: 5066

For: Apparatus and Method for Performing Traffic Flow Template Packet Filtering
 According to Internet Protocol Versions In Mobile Communication System :

ARGUMENTS FILED CONCURRENTLY
WITH PRE-APPEAL BRIEF REQUEST FOR REVIEW

Attn: Mail Stop AF
 P.O. Box 1450
 Alexandria, VA 22314-1450

Sir:

In response to the Final Office Action of June 16, 2008 and the Advisory Action mailed October , the Applicant submits the following arguments for consideration with the concurrently filed Pre-Appeal Brief Request For Review.

Remarks/Arguments

Claims 1, 7, 12-18, and 23-28 re rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0221016 to Jouppi et al. (hereinafter-Jouppi), as applied to claims above, and further in view of U.S. Patent No. 7,145,919 to Krishnarajah et al. (hereinafter- Krishnarajah). Applicant respectfully traverse the rejection.

Claim 1 recites, *inter alia*, the combination of “extracting a first IP version address from a source second IP version address, wherein the second IP version address contains the first IP version address” and “generating TFT information using the first IP version address, wherein the TFT information contains an indication that the second IP version address contains the first IP version address” (hereinafter the Claimed Combination). As explained on pages 24-25 of the specification of the present application and discussed on pages 8-9 of Applicant’s Amendment filed February 15, 2008, an exemplary embodiment of the claimed subject matter is designed to solve the computation load problem caused by the 128-bit computation conducted against IPv4-embedded IPv6 address during the packet filtering process. Conventionally, with respect to a source IP address in the form of an IPv4-embedded IPv6

address, when a TFT uses an IPv6 address as a filtering criterion against an incoming packet, 128-bit computations are inevitable during the filtering process, and thus cause a significant load in terms of bit computation as compared with the IPv4 address expressed as only 32 bits. By using the scheme in accordance with the Claimed Combination, such a computation load problem is resolved.

The scheme disclosed in Jouppi, which although is also related to IPv6 addresses as well as generating a TFT filter, is nonetheless designed to solve a problem entirely different from the computation-load problem that the Claimed Combination is designed to solve. Specifically, Jouppi's scheme is designed to overcome the prior art problem associated with the GGSN of a GPRS system being unable to effectively distinguish a legitimate packet directed to a mobile station from a malicious packet also directed to the same mobile station. In particular, in the prior art, a mobile station is assigned with an 128-bit IPv6 address, with the 64-bit prefix uniquely allocated to the mobile station and the remaining 64 bits being reserved for a suffix. The suffix, which comprises an interface identifier, however, is only optional for the mobile station as far as identifying the mobile station is concerned. Consequently, an attack may launch against the mobile station by exploiting the optional nature of the interface identifier in the form of inundating malicious packets directed to IPv6 addresses having configurations interpreted as directed to the mobile station, the configurations invariably being that the 64-bit prefix is the 64-bit prefix uniquely assigned to the mobile station and the 64-bit suffix is a suffix having a random interface identifier. Because the prior art only uses the 64-bit prefix of a destination IPv6 address as the criterion to filter out packets not intended for the mobile station, the prior art cannot effectively filter out those malicious packets, which, as discussed above, have their respective destination IP addresses conforming to the above-described configurations.

To solve this problem, Jouppi disclosed a scheme, in which an interface identifier is either first allocated to the mobile station (see paragraph [0006] of Jouppi), or first extracted from a source IPv6 address (see paragraph [0009] of Jouppi), and a TFT filter containing the interface identifier information, as opposed to a TFT filter containing the 64-bit prefix uniquely assigned to the mobile station, is then included among other active TFT filters, so as to distinguish legitimate packets directed to the mobile station from malicious packets also directed to the mobile station. *Hence, Jouppi's scheme is irrelevant to the computation-load problem*

that the Claimed Combination is designed to solve. Accordingly, Jouppi does not disclose, teach, or suggest the Claimed Combination. More specifically, nowhere does Jouppi teach or suggest “*extracting a first IP version address from a source second IP version address, wherein the second IP version address contains the first IP version address*”, as included in the Claimed Combination. Nor does Jouppi teach or suggest “*generating TFT information using the first IP version address, wherein the TFT information contains an indication that the second IP version address contains the first IP version address*”, as included in the Claimed Combination. As disclosed in the specification, this combination effectively causes the otherwise 128-bit computations (required by IPv6 addresses) being replaced by 32-bit computations (required by IPv4 addresses) and thus achieves the objective of drastically reducing the load of computation involving the particular type of IP address being of second IP version and containing an address of first IP version.

Turning to the Advisory Action, in the advisory action, the Examiner provides a detailed recount as to how the Jouppi’s scheme works relevant to an IPv6 address and establishing a TFT filter containing the interface identifier allocated to the mobile station. It appears that, after the detailed recounting is completed, the Examiner concludes that, in verbatim, “*Examiner understanding of filtering and extracting is to be same as the functional objective is achieved by both in identifying parameters for IPv6 addresses of packets as an end result.*” Quite frankly, Applicant does not quite understand the Examiner’s stated conclusion. However, if the Examiner concludes that the functional objective of Jouppi’s scheme is the same as the functional objective of the Claimed Combination, Applicant respectfully disagrees. As clearly indicated above, Jouppi’s scheme is designed to distinguish legitimate packets from malicious packets (or in Jouppi’s own words, “to guide mapping of data flows from a first subsystem to the terminal of a second system”, see paragraph [0006] of Jouppi), *without regard the particular type of IP address being of second IP version and containing an address of first IP version.* Hence, Jouppi is irrelevant to the objective of achieving a significant reduction in computation load, particularly bit-computation load, *specifically involving the particular type of IP address being of second IP version and containing an address of first IP version.* Thus, the Examiner’s assertion that the two respective functional objectives are the same is clearly erroneous, and is not anywhere supported by the disclosure of Jouppi.

On the other hand, if the Examiner proclaims that the filtering and the extracting involved in both schemes (scheme of Jouppi and scheme of the claimed subject matter), without regard to what is getting extracted and what is contained in the filter, are the same, Applicant respectfully submits that such a proclamation, even being true, is *inconsequential* to the patentability of claim 1, since the proclamation has little relevance to the Claimed Combination. To be more specific, the Claimed Combination does not claim how a general scheme of extracting certain information from an IP address should be conducted, or how a general procedure of filtering certain packets using a TFT filter should be accomplished. Nor does the Claimed Combination just call for extracting any kind of information without regard to what that extracted information is and generating a TFT filter contains that extracted information. To the contrary, the Claimed Combination claims specific requirements as to what is getting extracted from an IP address AND what is then contained in the TFT filter, *a combination of which* that Applicant believes renders the Claimed Combination patentable over the prior art. Hence, because the Examiner's proclamation contains none of those specific requirements, much less the combination of those specific requirements, the Examiner's proclamation, even being true, is nonetheless inconsequential in contending that the Claimed Combination is non-patentable.

Further, in the Advisory Action, the Examiner provides a detailed recount with respect to the scheme disclosed in Krishnarajah. **However, among all the discussions and recountings concerning Krishnarajah that the Examiner made in the Advisory Action, what is notably missing is any attempt made by the Examiner to articulate how Krishnarajah may possibly cure the deficiencies of Jouppi, or bridge the gaps between Jouppi and the Claimed Combination.** This appears to be the biggest problem of the Examiner's arguments made in the Advisory Action, since by this deficiency alone, the Examiner should be regarded as failing to discharge his statutory burden of establishing a prima facie case of obviousness.

On the other hand, the Examiner's detailed recount of Krishnarajah does not appear to depart from what Applicant had already discussed and concluded on pages 6-7 of Applicant's Response mailed September 11, 2008 concerning Krishnarajah as relevant to IPv6 and IPv4. Specifically, Krishnarajah cannot possibly cure the deficiencies of Jouppi, or bridge the gaps between Jouppi and the Claimed Combination, since when it comes to IPv4 and IPv6, Krishnarajah merely teaches a certain scheme (related to treating subflows) that is applied to an

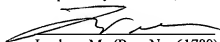
IPv6 address but may also be applied to an IPv4 address albeit with a few minor adjustments. See pages 6-7 of Applicant's September 11, 2008 Response for more details. This teaching of Krishnarajah (as related to IPv6 and IPv4) cannot expect to be logically combined with Jouppi's teaching (concerning extracting an interface identifier from an IPv6 and forming a TFT filter containing the interface identifier so as to distinguish legitimate packets from malicious packets) in any kind of way that will arrive at the Claimed Combination, since this teaching of Krishnarajah has no relevance to any of the steps included in the Claimed Combination, and thus cannot possibly cure the deficiencies of Jouppi, or bridge the gaps between Jouppi and Krishnarajah.

Accordingly, because Jouppi and Krishnarajah, taken either singly or in combination, do not disclose, teach, or suggest the Claimed Combination, claim 1 should be allowable over Jouppi and Krishnarajah. The remaining pending claims should be also allowable over Jouppi and Krishnarajah either by virtue of containing subject matter akin to the Claimed Combination as independent claims or by virtue of their dependency from allowable independent claims as dependent claims. Accordingly, the rejection of the pending claims should therefore be withdrawn.

Conclusion

In view of the above, it is believed that there are at least one or more errors or omissions in the Examiner's rejections.

Respectfully submitted,



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Dated: October 16, 2008